

West Lake Landfill
Briefing Paper for 10/23/2014 Call with CHEJ
October 22, 2014

Exposure Data Being Used by EPA:

- EPA **ASPECT** overflight of the site and nearby residential and commercial/industrial properties in 2013 – ***no off-site excess gamma emissions detected in surface soil anywhere off-site***, and only on-site in one small area of OU-1 Area 2 as previously identified in the RI.
- **Off-site groundwater sampling by USGS and EPA of privately-owned wells** to the northwest and southwest of the site in 2013 – ***no radionuclide exceedences of drinking water standards and to our knowledge no use of private wells in the area for drinking water.***
- **EPA off-site air monitoring began in 2014.** The radiation air monitoring constituents are: radon, radiation particulate, dosimetry and gamma exposure rates. The data is currently being collected to establish normal background variability prior to the barrier construction. ***Levels detected thus far have not been found to be above levels of public health concern.*** We are continuing to explore equipment options to establish lower detection limits and faster results.
- **MDNR off-site soil sampling in 2005** along St. Charles Rock Road, Boenker Road and Taussig Road just outside site boundaries ***did not detect U, Th, Ra above the cleanup standards established for the FUSRAP sites*** (important to note that no cleanup standards have been set for West Lake; the numbers in the SFS were for evaluation purposes only).
- **BMAC sampling** via Rapid Assessment Tools (RAT) survey and lab analytical of soil, including background parks – ***no exceedences found for uranium, thorium, or radium.***
- Recent **GCPT work in OU-1 Area 1** included numerous points along the fenceline paralleling St. Charles Rock road; ***no gamma hits found there.*** (The GCPT points near the transfer station that did show gamma hits and lab results with radionuclides are all at depth so there are no current exposures in that area.)

EPA's View of What Could Happen Should the SSE Come Into Contact with the RIM:

- Based on our understanding of the type of RIM and its distribution in OU-1, it is not the type of radiological compound that would become explosive in the presence of heat or would support a nuclear event.
- A SSE in OU-1, regardless of whether or not it comes into contact with RIM, would be expected to create increased pressure conditions within the landfill and force out entrained gases. We would anticipate an increase in release of gases from the landfill surface from surface cracks and fissures in the form of steam, radon and potentially other gases (as determined by the composition of the non-RIM materials).
- Based upon our understanding of the distribution of the RIM in OU-1, the release would not occur site wide but instead in smaller areas.
- Should the RIM present in the subsurface come into contact with a SSE, given the temperature range observed to date (i.e., <200 F), the radioactive solid materials (RIM) present in the subsurface, would not be expected to change form into gases which could release to the atmosphere. It could increase release of radon into the atmosphere.
- The construction of a proper cap over the landfill would help reduce both short and long term increased risk to human health associated with any increased release of radon.
- EPA is working with MDNR to collect additional information on temperatures, gases and subsidence that can be used to develop a better picture of trends and hence of movement of the SSE within the landfill and quarries.

EPA Collaboration with MDNR:

- EPA scientists are reviewing the data MDNR either collects or has received from Republic. We have bi-weekly phone calls among MDNR and EPA scientists about what the data is showing or may be indicating. Neither agency believes at this time based on the information we have that the SSE is moving into/past the “neck”.
- EPA is collaborating with MDNR regarding what additional data could be beneficial to the characterization of the SSE and how that data could be obtained.
- EPA is sharing with MDNR all of the information about the planning for and construction of the Isolation Barrier, and seeking their input on the IB options.

EPA Relocation Authority

Legal Authorities:

CERCLA section 101(24) grants explicit authority to conduct permanent relocations by defining remedial action to include, “...the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances, or may otherwise be necessary to protect the public health...”

NCP states that, “[t]emporary or permanent relocation of residents, businesses, and community facilities may be provided where it is determined necessary to protect human health and the environment” (40 CFR section 300, App. D(g))

Implemented in accordance with the Uniform Relocation and Real Property Acquisition Policies Act (URA), 42 U.S.C. section 4600-4655, and applicable regulations, 49 C.F.R. 24. EPA uses the services of the U.S. Army Corps of Engineers and U.S. Bureau of Reclamation to assist in conducting relocations because of their expertise in applying the URA.

Permanent Relocation:

- Generally, the primary reasons for conducting a permanent relocation would be to address an immediate risk to human health (where an engineering solution is not readily available) or where the structures (e.g., homes or businesses) are an impediment to implementing a protective cleanup.
- EPA can consider for sites on the NPL as part of the remedial action.
- EPA preference to address risks by using well-designed cleanup methods to allow people to remain safely in their homes. Therefore, permanent relocation as part of a Superfund response action generally should not be necessary to protect human health and the environment.

Temporary Relocation

- A CERCLA removal or remedial response action may require that EPA relocate people temporarily to ensure their health and safety or to allow EPA to conduct cleanup activities. Unlike permanent relocation, which generally involves the acquisition of real property by the federal government or PRPs, temporary relocation does not involve the acquisition of real property. There are three primary reasons why a Region may select temporary relocation as part of a response action:

- *Health threats*—The contamination may pose an unacceptable threat to human health, or implementation of the response action may pose an unacceptable health risk to residents (e.g., there could be an increased chance of exposure during sampling, bulking, and excavation).
- *Safety of residents*—The response action itself may pose an unacceptable risk to residents (e.g., use of heavy construction equipment too near a house could threaten the integrity of the structure or pose an attractive nuisance to children).
- *Efficiency of the response action*—The response action can be implemented more quickly and at a lower cost if residents are not in the area (e.g., work hours can be extended to include early morning and late evening hours when residents would normally be at home).
- Temporary relocation should not be selected if health and safety risks or circumstances that pose an unreasonable inconvenience can be adequately addressed by other means without significantly increasing the overall cost or duration of the response action. However, on a case-by-case basis, in unusual situations, Regions may select temporary relocation when they think the response action creates too much of a disruption to residents (e.g., use of heavy, noisy equipment may keep them awake at night, they may not be able to easily access their homes during the response action, and they may have concerns over strong odors from the contaminated area).
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Examples:

- Doe Run (Herculaneum, Missouri): EPA fund-lead removal action for temporary voluntary relocation while contaminated yard soils replaced and home interiors cleaned. In addition, Doe Run agreed to implement limited voluntary buyout for residents who lived closest to the smelter under an agreement with MDNR (about 145 out of 173 homeowners accepted a buyout offer).
- Escambia Wood Treating (Pensacola, Florida): Permanent relocation of 358 households.
- Montclair/West Orange/Glen Ridge Radium sites (New Jersey): Temporary relocation of most extensively contaminated properties while cleanup performed. The Montclair/West Orange Radium site included 469 residential properties and ten municipal properties. The soil at the site was contaminated with radioactive waste materials suspected to have originated from nearby radium-processing facilities that operated in the early 1900s. Subsequently, houses were constructed on or near radium waste disposal areas. More than 220,000 cubic yards of contaminated soil were scattered on public and private properties in the densely populated residential communities. Many homes had high levels of radon gas and radon decay products, as well as excessive levels of indoor and outdoor gamma radiation.
- Times Beach Missouri: Permanent relocation of Times Beach residents and businesses after CDC advisory recommended that people relocated from Times Beach due to flooding should stay away, and that those remaining should leave.
- Tar Creek (Oklahoma) and Treece (Kansas): Voluntary permanent relocation of residents after legislative exemption from URA requirements; relocation will result in more cost-effective remedy implementation by allowing more time to conduct the cleanup and allow chat sales to continue for an additional 10 years.